

Date: November 20, 2012

To: Thomas J. Bonfield – City Manager

Through: Keith Chadwell - Deputy City Manager

From: Marvin G. Williams – Director of Public Works

Subject: Update Feasibility of a Stormwater Retrofit at the Former Duke Diet and Fitness Center

Executive Summary

The Department of Public Works Stormwater & GIS Services division has been conducting public outreach and soliciting input to the proposed stormwater retrofit project over the summer. We have presented the proposal at 12 separate meetings (summary attached) and approximately 250 people have attended. A presentation at the Partners Against Crime – District 2 (PAC 2) meeting is scheduled for December 10, 2012. As part of the outreach we have produced a press release, factsheet, Frequently Asked Questions (FAQ), several poster boards explaining the project, and a PowerPoint presentation for the project. In addition, to the items above we have been adding information to the webpage on the project as questions and requests for information have come in. Numerous endorsements and support from individuals and organizations have been received for the project.

Primary questions included:

What other uses is the City considering for the site?

We have conferred with other City departments and no other uses have been proposed for the site.

Can the building be saved?

In order for the wetland to be designed properly and be cost effective, the entire site must be utilized and the existing building and parking areas removed. Stormwater utility funds cannot be used for non-stormwater items or improvements.

What community amenities will be provided in the design?

Requests for amenities will be evaluated at the design stage.

A phase 1 and limited phase 2 environmental assessments have been completed. The assessments revealed no significant concerns for the proposed project. Soil borings have been completed confirming the depth of bedrock is adequate to size the project. Additionally, a pre-application meeting was held with the United States Army Corps of Engineers (USACE) and the North Carolina Department of Environment and Natural Resources (NCDENR). No major permitting issues were raised for the project.

Background

The former Duke Diet and Fitness Center (DDFC) is a 9 acre site located at the headwaters of South Ellerbe Creek at the confluence of the Trinity (230 acres) and Downtown (255 acres) Basins, two heavily developed urban basins near downtown Durham. Almost the entire site is located within the 100-year floodplain and a portion of the existing building is located within the regulated floodway.

The Falls Lake existing development rule requires reductions in nitrogen and phosphorus from existing development prior to reaching Falls Lake. The former Duke Diet and Fitness Center site is an excellent location to construct a large regional stormwater retrofit project. A retrofit project at this location would provide for a significant portion of the nitrogen (30 - 60%) and phosphorus load reduction needed for stage 1 of the Falls Lake load reduction goal from existing development. The engineering consulting firm Brown and Caldwell has completed a feasibility study to determine the viability of a stormwater control device to achieve the reductions at this location.

The results of the study recommend a constructed wetland and stream restoration on the site. In order for the wetland to be designed properly and be cost effective, the entire site must be utilized and the existing building and parking areas removed. Cost savings are realized by installing this one wetland for approximately \$8 million to treat 485 acres over installing 15 to 25 small facilities in the watershed to achieve the same result. The savings of doing one project instead of many in project management, construction, and maintenance costs is substantial and will help to reduce the overall costs to the City of the Falls Lake Stage 1 reductions.

Issues and Analysis

The opinion of probable costs to renovate the existing structure for recreational use is \$6,207,739.00. These costs would be considered substantial improvement (costs which equal or exceed 50% of market value of the structure) of an existing structure in the 100-year floodplain. 50% of tax assessed value of the structure is only \$1,076,098.00. The cost of flood proofing (\$1,326,040.00) the structure has been included in the above renovation costs. At this time the Parks and Recreation Department does not have a plan to develop a facility in the area of the former Duke Diet and Fitness Center.

Recommendation

The Public Works Department recommends that the City Council receive a presentation on Update Feasibility of a Stormwater Retrofit at the Former Duke Diet and Fitness Center.

Attachments

South Ellerbe Wetland Public Outreach Summary

Project Fact Sheet - South Ellerbe Wetland Project

Frequently Asked Questions – South Ellerbe Wetland Project

Opinion of Probable Costs – Duke Diet and Fitness Renovation and Demolition